REPORT TO THE TWENTY SECOND LEGISLATURE STATE OF HAWAII REGULAR SESSION OF 2002

Findings and Recommendations
In Response to House Concurrent Resolution 89, House Draft 1
Regular Session of 2001, State of Hawaii
Requesting the Hawaii Tourism Authority to Convene a
Task Force to Study Safe Access to View and Learn
About Hawaii Volcanoes

Prepared by **THE VOLCANO TASK FORCE**December 2001



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Legislative Request

On March 27, 2001, during the 2001 Legislative Regular Session, the Hawaii Tourism Authority (HTA) was requested through House Concurrent Resolution 89, House Draft 1, (see Appendix 1) to convene a task force comprised of representatives from the following agencies:

- 1. The Hawaii Tourism Authority
- 2. Department of Transportation
- 3. Department of Land and Natural Resources
- 4. University of Hawaii at Hilo
- 5. County of Hawaii
- 6. Hawaiian Volcano Observatory
- 7. Hawaii Volcanoes National Park Service
- 8. The affected communities.

The Resolution requested the Task Force to study means to provide safe access to view volcano eruptions and to establish a visitor observatory to offer safety and educational information to volcano visitors. The task force was further tasked to submit its findings and recommendations to the Legislature no later than twenty days before the convening of the Regular Session of 2002.

Hawaii Tourism Authority Convenes First Volcano Task Force Meeting

Towards the latter part of June 2001, the HTA invited representatives of the aforementioned agencies in HCR 89, to participate in the first meeting of the Volcano Task Force (see Appendix 2), at the Hawaii Volcanoes National Park on July 17th, 2001. The Task Force, composed of organizations with diverse interests and responsibilities, enabled the productive exchange of ideas and philosophies.

The National Park Service had served notice to HTA (see Appendix 3) that they would not be able to participate as an active member of the newly organized task force as described by HCR 89 HD1. Specifically, the Service cited that the Hawaii Volcanoes National Park is an area of exclusive federal jurisdiction and that active participation on a committee outside of their jurisdiction making recommendations to the park would be improper. They did express a desire to serve in an advisory capacity to the task force in managing the current volcanic eruption in the park.

Hawaiian Volcano Observatory Reveals Outbreaks Outside of National Park Boundaries in the Kalapana Area

Kalapana is an area located on the south/eastern coast of the Big Island, about 25 miles south of Hilo town. In 1990, flows of lava from Kilauea Volcano invaded this coastal community treasured for its historic sites and black sand beaches. Although the residents were able to evacuate to safety, their homes were incinerated, and by the end of that year all of Kalapana lay buried under 50 feet of lava. Over the past 1,100 years, more than 90 percent of the areas around the volcano's surface has been covered by new lava flows.

An update of the current lava flows in this area by the Hawaiian Volcano Observatory reveals that outbreaks of lava has been flowing over private lands and entering the ocean about 3 miles from Kalapana outside of the National Park boundaries (see Appendix 4). Other agencies reported further that hundreds of visitors a day were entering the active lava areas from the Kalapana side. The current situation leaves the County and the State with, among other liability concerns, the issue that visitors and local residents are involved with an extremely hazardous environment with no control, guidance, or efforts at education.

Hawaii County's Response To Impending Safety Issues

In the days following the Task Force's meeting, Hawaii County Mayor Harry Kim, restored a lava-covered road on the remote Kalapana coastline to make it easier and safer for people determined to watch lava that flows from underground tubes into the ocean. On August 17, 2001, Hawaii County officially announced the opening of a newly constructed access road that would allow vehicles to cross the 2.6 mile stretch from the current barricade to a hiking trail that goes less than a mile from the flow front.

Original Intent and Purpose of HCR 89, HD 1 Addressed With Hawaii County's Response to Provide Safety for Visitors and Residents Determined to View Volcanic Activity

The Volcano Task Force met again on August 28, 2001, at the Hawaii County Civil Defense Emergency Operations Center. Mayor Harry Kim's expeditious and appropriate response to provide safety for visitors and residents determined to view volcanic activity beyond the boundaries of the National Park Service was applauded by Task Force members and Kalapana Community representatives in attendance. (See Appendix 5).

The Volcano Task Force further believed that the original purpose and intent in convening the task force had been addressed with this response to safety

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issues raised by the outbreaks of volcanic activity beyond the National Park Service boundaries.

Hawaii County and Task Force members Meet to Provide Interpretive and Educational Materials for Safety at Viewing Sites

Prior to the Task Force's second meeting, Mayor Kim's cabinet had met several times to assure that access road policies and interpretive/educational materials for safety would be provided visitors and residents utilizing the new access road (see Appendix 6).

Volcanologists from the University of Hawaii at Hilo, and also a part of the Volcano Task Force, have also provided Hawaii County with proposals (see Appendix 7) to provide a starting point for discussions on development of a Certified Guide Program.

Hawaii County's Quest to Explore Alternatives for Funding of Volcanoes Project

In subsequent meetings with Hawaii County Mayor Harry Kim, it has been clearly expressed that the primary focus of the Hawaii Tourism Authority's involvement in the Volcano Task Force would be finding alternatives for funding of the project in three areas:

- 1. Development of Educational programs for Hawaii's Volcanoes.
- 2. A Community Relations and marketing effort for Hawaii's Volcanoes.
- 3. The hiring of a Coordinator for the entire project, that can integrate Hawaiiana concepts and infrastructure sustainability.

With the Original Intent and Purpose of HCR No. 89 HD 1 Addressed, the Volcano Task Force Assumes a New Mission

The House Committee on Tourism and Culture for the Twenty First Legislature had submitted amendments to House Concurrent Resolution No. 89 HD 1, which included the following statement:

Your Committee is cognizant that worldwide competition in the visitor industry gets more intense each year, and to gain a competitive edge, we need to pay attention to those distinctive features that no other destination has. Our active volcano is one of those features; however, it is imperative that we provide safe ways to take advantage of this attraction to our visitors and residents. A task

Volcano Task Force Findings and Recommendations December 2001

force is a good start to identify the means to create a better structure for quality information dissemination and safe viewing of our active volcano. (See Appendix 1, page 2 of letter from Representative Jerry Chang, Chair of the House Committee on Tourism and Culture.)

The Hawaii Tourism Authority believes that the original intent and purpose of convening the task force has been addressed, by providing a good start to identify the means to create a better structure for quality information dissemination and safe viewing of the Volcano Project.

At this juncture, however, it is important to note that the Volcano Task Force's continuing efforts to create a better structure for quality information dissemination and safe viewing for the Volcano Project should be distinguished as a new mission.

The Volcano Project a Part of the Hawaii Tourism Authority's Key Initiative in Product Development

In the Summary of Proceedings of the initial meeting of the Volcano Task Force (See Appendix 8) it is clear that the mission of the VTF has gone beyond its original intent and purpose. Hawaii County Mayor Harry Kim envisions a project that is a part of the Hawaii Tourism Authority's key initiatives in Product Development.

Product Development is about creating community economic development opportunities and community based tourism events and programs that will complement Hawaii's traditional resort product. The HTA has always been an advocate in maintaining and developing Hawaii's natural resources as a part of the State's "Product." Hawaii's environmental resources have proven to be among its major attractions and are of high value to our visitors. In this case, Hawaii County's Volcanoes Project not only complements our natural attractions, but also enables a community to define what and how they want to promote one of the most viable marketing and natural attractions in the world. With continued stewardship of the Volcanoes Project, the efforts of the Volcano Task Force could only positively impact the Hawaii Tourism Authority's goal of supporting growth in visitor expenditures; and provide value-added experiences for visitors and residents alike.

The Hawaii's Volcanoes project and the Volcano Task Force require a long-term commitment of both staff and resources for operations. Permanent and adequate funding for ongoing safety/educational programs, interpretive materials, management and support for qualified personnel and interpreters are absolutely essential to the success of the project.

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Conclusion

Faced with safety concerns, Hawaii County and Mayor Harry Kim responded with timely and appropriate resources to provide a safer access to view volcanic activity. Members of the Volcano Task Force along with County department heads further provided safety and educational information in the form of flyers and brochures for visitors and residents determined to view the lava flows.

- 1. The Volcano Task Force believes that the original intent and purpose of HCR 89 HD 1, has been addressed with the appropriate actions of Hawaii County, providing safer access for viewing and safety/educational information for visitors and residents determined to view volcanic activity.
- 2. Further, it is the recommendation of the Hawaii Tourism Authority that Hawaii County take stewardship of the Hawaii Volcanoes Project with continued guidance and direction from the Volcano Task Force.

The HTA certainly supports the efforts of the Volcanoes Task Force and views the Volcanoes project as one that could be further developed. Towards this end, the HTA has also provided staff support to begin the groundwork for the development of this project. Following initial meetings with Hawaii County's Mayor Kim, the HTA is also exploring various alternatives for the funding of Hawaii County's Volcanoes Project along with safety and interpretive materials for the newly constructed access road and viewing site.

Mayor Harry Kim and Hawaii County are to be commended for being proactive in addressing imminent State and County safety issues. The HTA views the Volcanoes Project as one of Hawaii's most spectacular natural attractions and will continue to participate and assist the Volcano Task Force to see the project to fruition.

App ndix 1

HTA REM

STAND. COM. REP. NO. 1117

Honolulu, Hawaii

Murch 27, 2001

RE:

H.C.R. No. 89

H.D. 1

Honorable Calvin K.Y. Say Speaker, House of Representatives Twenty-First State Legislature Regular Session of 2001 State of Hawaii

Sir:

Your Committee on Tourism and Culture, to which was referred H.C.R. No. 89 entitled:

"HOUSE CONCURRENT RESOLUTION REQUESTING THE HAWAII TOURISM AUTHORITY TO CONVENE A TASK FORCE TO STUDY SAFE ACCESS TO VIEW AND LEARN ABOUT HAWAII VOLCANOES,"

begs leave to report as follows:

The purpose of this concurrent resolution is to request the Hawaii Tourism Authority (HTA) to convene a task force consisting of representatives from various State, County and Federal agencies to study ways to provide safe access to view volcano eruptions and establish a visitor observatory to offer safety and educational information.

Testimony in support of this measure was received from several members of the HTA, the Department of Land and Natural Resources, and the University of Hawaii at Hilo. The County of Hawaii submitted testimony in support of this measure but with suggested amendments.

Your Committee is cognizant that worldwide competition in the visitor industry gets more intense each year, and to gain a competitive edge, we need to pay attention to those distinctive features that no other destination has. Our active volcano is one of those features; however, it is imperative that we provide safe ways to take advantage of this attraction to our visitors and residents. A task force is a good start to identify the

means to create a better structure for quality information dissemination and safe viewing of our active volcano.

To this effect, your Committee has amended this measure by:

- Expanding the make up of the task force to include participation from the Hawaiian Volcano Observatory and the affected community;
- (2) Making technical, nonsubstantive changes for clarity, style and consistency.

As affirmed by the record of votes of the members of your Committee on Tourism and Culture that is attached to this report, your Committee concurs with the intent and purpose of H.C.R. No. 89, as amended herein, and recommends that it be referred to the Committee on Finance, in the form attached hereto as H.C.R. No. 89, H.D. 1.

Respectfully submitted on behalf of the members of the Committee on Tourism and Culture.

JERRY CHANG, Chair

State of Hawaii House of Representatives The Twenty-first Legislature

Record of Votes of the Committee on Tourism and Culture

Bill/Resolution No.:	Date:			<u> </u>
HCR 89	3/24	<u>//01</u>		
Committee Referral:		☐ The committee is reconsidering its		
TAC, FIN	previo	ous decision on the n	neasure.	
The recommendation is to: Pass, unamended	X.P	ass, with amendmen	its	
☐ Hold	R	ecommit		
TAC Members	Ayes	Ayes (WR)	Nays	Excused
1. CHANG, Jerry L. (C)	V		A system of the	
2. SUZUKI, Nathan (VC)	✓			
3. ABINSAY, Felipe P., Jr.				
4. AHU ISA, Lei				/
5. CABREROS, Benjamin C.	V			
6. CASE, Ed	V			
7. MAGAOAY, Michael Y.	·			n katawa
8. TAKUMI, Roy M.	V			
9. HALFORD, Chris				
10. LEONG, Bertha F.K.	~			<u></u>
11. MARUMOTO, Barbara	<i>\</i>			
12. ONTAI, Guy P.	~			<u> </u>
			1	
TOTAL	11			1
The measure is: ☐ Passed, unamended ☐ Recommitted	Pass	sed, with amendmen	ts	
Held If joint referral,committee ac	did n	ot support recomme	ndation.	
ice Chair's or designee's signature: **Mathamatics** **The Chair's or designee's signature: **The Chair's signature: *	Sinuki'			
ribution: If passed, attach to Committee Report Data Entry				
ecord of Votes TAC				

HOUSE CONCURRENT RESOLUTION

REQUESTING THE HAWAII TOURISM AUTHORITY TO CONVENE A TASK FORCE TO STUDY SAFE ACCESS TO VIEW AND LEARN ABOUT HAWAII VOLCANOES.

WHEREAS, Hawaii Volcanoes National Park is the Big Island's number one visitor attraction and the nonexplosive nature of Hawaiian volcanoes attracts numerous visitors and residents who want to view eruptions, live lava flows, and the entry of lava into the ocean; and

WHEREAS, the Pu'u 'O'O-Kupaianaha eruption on the east rift zone of Kilauea Volcano has been ongoing for more than eighteen years, and has claimed nearly two hundred homes, a National Park Service Visitor Center at Waha'ula, a church, a store, and the Waha'ula Heiau and other ancient Hawaiian sites; and

WHEREAS, this eruption's early activity at the Pu'u 'O'o vent sent lava fountains up to fifteen hundred feet into the air, stopping traffic at vantage points across east Hawaii; and

WHEREAS, subsequent Kupaianaha vent eruptions were continuous and quiet, with much of the lava from Kupaianaha streaming directly into the sea; and

WHEREAS, although the National Park Service provides the latest information on trails, road conditions, and safety conditions at Kilauea Visitor Center and recommends viewing volcanic activity only from the end of Chain of Craters Road, volcano visitors often attempt a closer view of a lava flow or lava field; and

WHEREAS, lava viewing presents health and safety dangers that include hazardous volcanic fumes, steam and methane gas explosions, coastline collapse, burns from scalding waves; and

WHEREAS, although lava's dramatic entry into the sea to create new land is a fascinating site, casual visitors may not be aware of all the potential risks or may underestimate the danger; and

WHEREAS, in 1993, one person died and twelve others required medical attention when the coastline they were standing on collapsed; in 1994, two people were severely scalded, requiring hospitalization, when they were hit by a sudden wave where the lava entered the ocean; now, therefore.

BE IT RESOLVED by the House of Representatives of the Twenty-first Legislature of the State of Hawaii, Regular Session of 2001, the Senate concurring, that the Hawaii Tourism Authority is requested to convene a task force to study means to provide safe access to view volcano eruptions and establishing a visitor observatory to offer safety and educational information to volcano visitors; and

BE IT FURTHER RESOLVED that the task force is requested to include representatives, chosen by and from each of the following: the Hawaii Tourism Authority, the Department of Transportation, Department of Land and Natural Resources, the University of Hawaii at Hilo, the County of Hawaii, the Hawaiian Volcano Observatory, the National Park Service, and the affected community; and

BE IT FURTHER RESOLVED that the task force is requested to submit its findings and recommendations to the Legislature not later than twenty days before the convening of the Regular Session of 2002; and

BE IT FURTHER RESOLVED that certified copies of this Resolution be transmitted to the Chairperson of the Board of the Hawaii Tourism Authority, the Director of Transportation, the Chairperson of the Board of Land and Natural Resources, the Chancellor of the University of Hawaii at Hilo, the Mayor of the County of Hawaii, the Director of the Hawaiian Volcano Observatory, and the Superintendent of the National Park Service.

Volcano Task Force Participant Listing July 18, 2001

Ag	ency/Person Attending	Phone	E-mail address			
•	County of Hawaii					
	Mayor Harry Kim	961-8211				
	2. Millie Kim, HTA Hilo Rep	969-3114	millie@lava.net			
	3. Jane Testa, R&D HI County		jtesta@interpac.net			
•	House of Representatives		<u></u>			
	4. Helene Hale	965-7889	hale@capitol.hawaii.gov			
•	Hawaii Tourism Authority					
	5. Doug Aton	973-2282	daton@hawaiitourismauthority.org			
	6. Sharon Freitas	973-2272	sfreitas@hawaiitourismauthority.org			
•	Department of Land and Natur	ral Resources	, ,			
	7. Don Hibbard	692-8015	saywhat@aloha.com			
•	University of Hawaii At Hilo					
	8. Gerald Demello	974-7567	gmello@hawaii.edu			
	9. Ken Hon	974-7302	kenhon@hawaii.edu			
•	Hawaii Volcanoes National Par	rk				
	10. Jim Martin	985-6002	jim_martin@nps.gov			
	11. Doug Lentz	985-6027	doug_lentz@nps.gov			
	12. Jeff Judd	985-6032	jeffrey_judd@nps.gov			
	13. Andrea Kaawaloa	985-6013	andrea_kaawaloa@nps.gov			
	14. Ruth Levin	985-6014	ruth_levin@nps.gov			
•	HawaiiBig Island Visitors Bu					
	15 George Applegate	961-5797	gapplegate@hvcb.com			
•	os deologicai sui vey, mawanan voicano observatory					
	16 Arnold Okamura	967-8820	arnold@usgs.gov			
	17 Don Swanson	967-8863	donswan@usgs.gov			
	18 James Gale	985-6010	jim_gale@nps.gov			
	19 Mardie Lane	985-6018	mardie_lane@nps.gov			
_	H C					
•	Hawaiian Community particip		(II 1' 4 1) 065 0764			
	1. Mr. Robert Keliihoomalu, Sr	. Pnone:	: (Unlisted) 965-8764			
	RR1 Box 4972					
	Pahoa, HI 96778					
	Represents the Kalapana Community					
	2, Ms. Pualani Kanaka'ole Kanahele 1110 Auwae Street					
	Hilo, HI 96720	Dhono	. 050_0832			
	Hilo, HI 96720 Phone: 959-9832 Represents the Edith Kanaka'ole Foundation					
	(Will attend 2 nd meeting, 8-28-01)					
	(will attend 2 incetting, 0-20-01)					



NATIONAL PARK SERVICE

Hawaii Volcanoes National Park
Post Office Box 52
Hawaii National Park, Hawai'i 96718-0052
808/985-6000
808/967-8186

IN REPLY REFER TO:

A3815 (HAVO) x A7615

June 28, 2001

Mr. Lloyd I. Unebasami Chief Administrative Officer Hawaii Tourism Authority Hawaii Convention Center 1801 Kalakaua Avenue Honolulu, HI 96815

Dear Mr. Unebasami,

The National Park Service regretfully declines the most gracious offer to participate as an active member on the newly organized task force for the Hawaii Tourism Authority as described under House Concurrent Resolution HCR 89 HD 1. As you know, Hawaii Volcanoes National Park is an area of exclusive federal jurisdiction and our active participation on an outside committee, which could make recommendations to the park, would be improper. We do however wish to afford the new task force the benefit of our eighteen plus years of experience in managing the current volcanic eruption in the park. We would welcome the opportunity to make a presentation to the task force showing the complexities of handling an ever changing natural event and still providing a quality first-hand-experience for the visitors to witness this once in a lifetime event.

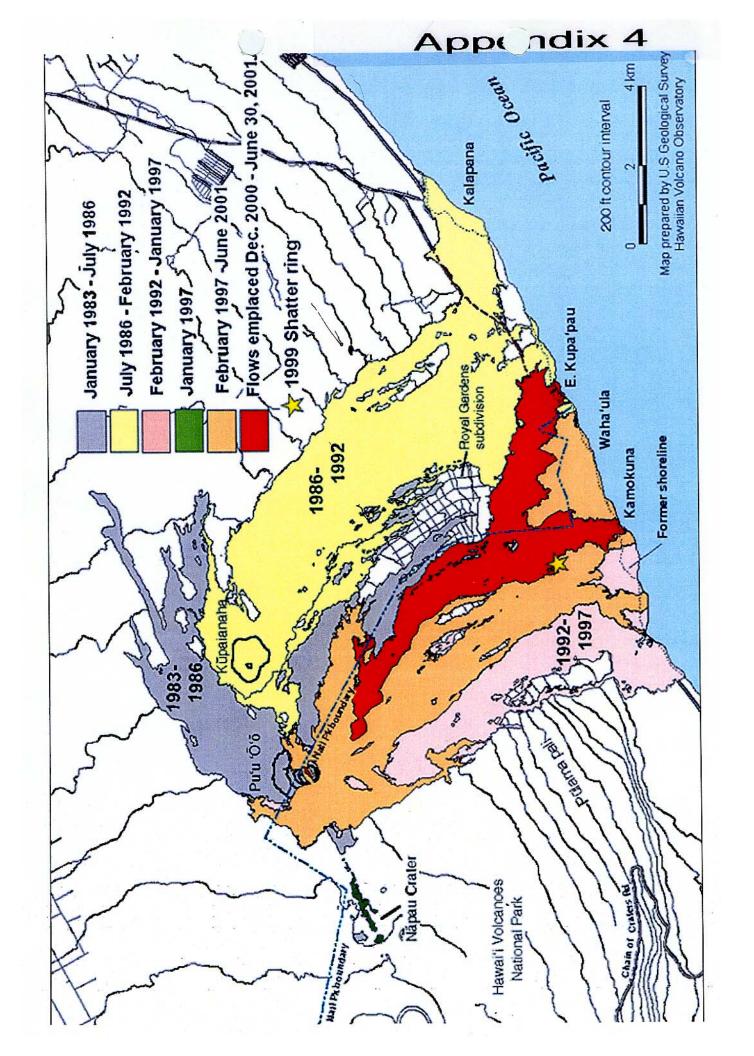
We wish to offer the task force the opportunity to visit the eruption site inside the park and also offer them a convenient conference room at Park Headquarters to meet in, if they wish. Members of my staff and myself are looking forward to meeting with the task force and wish to provide them any assistance we can, to support their efforts in presenting a quality experience for visitors to Hawaii. Again, we regret our necessity to decline the offer to participate on the task force. If you or the task force have questions or any needs, please have them contact me at (808) 985-6025.

Sincerely,

James, F. Martin Superintendent

cc:

Bill Davis, Hawaii County Civil Defense Andy Levin, Office of the Mayor, Hawaii County



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Volcano Task Force Participant Listing 2nd Meeting August 28, 2001

- 1. Mayor Harry Kim, Hawaii County
- 2. Millie Kim, HTA Board member
- 3. Jane Testa, Hawaii County Research & Development
- 4. Lori Andrade, Hawaii County Research and Development
- 5. George Applegate, Big Island Visitors Bureau
- 6. Ken Hon, University of Hawaii, Hilo
- 7. Bruce D. Butts, Assistant Administrator, Hawaii County Civil Defense
- 8. Lloyd Unebasami, Chief Administrative Officer, HTA
- 9. Doug Aton, HTA
- 10. Brian Sugayama, DLNR/DOCARE
- 11. Wesley Matsunaga, DLNR/LD

• Hawaiian Community participants:

 Mr. Robert Keliihoomalu, Sr. RR1 Box 4972 Pahoa, HI 96778 Represents the Kalapana Community

2, Ms. Pualani Kanaka'ole Kanahele Representing the Edith Kanaka'ole Foundatiion (Invited but did not attend)

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ruptions at Kilauea Volcano can undergo many changes that can be rapid, unpredictable, and life threatening. Without adequate knowledge, visitors can easily find themselves in danger.

VIEWING LAVA SAFELY—COMMON SENSE IS NOT ENOUGH

- DO NOT GO ONTO BENCHES OR BEACHES BUILT BY LAVA

 ENTERING THE SEA! Bench collapses have killed people:

 Black sand beaches are part of the bench: STAY AWAY!

 STAY WELL BACK FROM THE EDGES OF STEEP CLIFFS!

 They break off frequently, and if you fall in the ocean, you cannot climb back up and may be burned by hot, acidic waters, as a sand glass shards:

 A MOVE INLAND QUICKLY IF YOU FEEL OR HEAR ANYTHING:

 UNUSUAL: These may indicate that the ground is about to collapse.

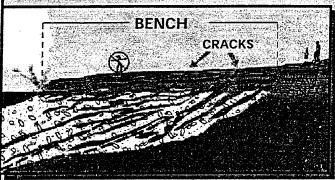
 DO NOT GO NEAR THE WATER! It may be extremely hot, and you could be severely scalded by unexpected waves.

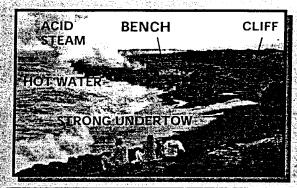
 STAY OUT OF THE STEAM PLUME: It contains hydrochloric acid and glass shards:

An area of new, unstable land, commonly called a bench forms where lava enters the ocean. When the hot lava hits seawater it shatters into pieces building an underwater sand pile. When enough sand builds up, a beach forms. The thin veneer of lava flows that coat the bench give a false impression of solid ground. However, the lava is only a thin layer on top of a rubble pile that can be over 500 feet (150 m) thick. A small movement in the underwater sand pile can trigger a full collapse. Bench collapses are completely unpredictable and produce large explosions that throw hot rocks 300 feet (100 m) inland.

When lava enters the sea, it heats the water to near boiling. Getting splashed or even sprayed with this water can cause 3rd degree burns. Volcanic activity can also produce superheated steam that is invisible and can kill you. STAY OFF the bench to avoid serious burns.

The steam plume also contains hydrochloric acid with a pH of 1.5 that has a corrosive power similar to battery acid. PEOPLE WITH RESPIRATORY PROBLEMS, SMALL CHILDREN, AND PREGNANT WOMEN should avoid the area.





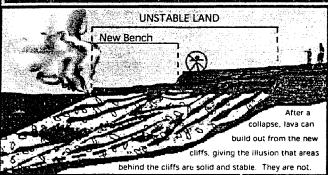


Stay in marked viewing areas.

Avoid "flying" rocks

This rock was thrown 30 feet (10 m) inland !

In case of a collapse or large explosion, move inland and away from the bench.



ACTIVE LAVA FLOWS may be encountered in the coastal area: Keep a safe distance from active lava, it is about 2000 degrees F (1150 C): The surface of recently crusted flows can be 150-300 degrees F. Severe burns can be sustained from falling on these flows. Stay upwind and drink lots of water. You can quickly get overheated and suffer from heatstroke. It's too late when you feel sick...'Lava flows are underlain by LAVA TUBES... which are incandescent caves partially filled with molten lava. In areas, the overlying rock is thin a and dangerous. Stay on trails where possible ::

odified and condensed from USGS fact sheet 152-00 #Available online at geopubs wr.usgs.gov/fact-sheet/fs152-00

ALOHA,

Hawaii County and the State of Hawaii have worked hard to make the lava flows more accessible to both visitors and residents. We hope that you will enjoy this extraordinary experience. But remember: visiting an active volcano is inherently dangerous. Volcanic phenomena are captivating and beautiful, but there are many hidden hazards of which visitors are unaware. Read the following information carefully. Our primary goal is that you have a happy and safe visit.

BE PREPARED:

- Viewing hours are posted at the entrance.
- Be prepared for a round trip hike of about 1 hour.
- Young children are not advised. Bathroom facilities are extremely limited.
- Bring lots of water (1-2 liters per person), there is no water on site.

- · Wear boots or sturdy shoes. No sandals.
- Wear appropriate clothing such as long pants, hat, gloves, and bring a raincoat.
- · Bring at least one flashlight per person.

STAY ALERT, STAY ALIVE:

- > STAY IN THE DESIGNATED VIEWING AREA; it is located to allow safe viewing.
- > DO NOT GO DOWN ONTO THE BENCH OR BEACH (the areas below the sea cliff)
 - Collapse of bench or beach into ocean can happen within seconds and without warning.
 - Explosions can throw hot lava and huge blocks inland.
 - ▶ Rivers of hot lava can suddenly emerge from ground that appears solid.
 - Water around lava can be boiling, and there is a strong undertow.
 - Unexpected large waves can send boiling water and scalding steam over beach and bench.
- > BE AWARE OF THE STEAM PLUME AND WIND DIRECTION
 - ▶ Steam coming off bench contains hydrochloric acid and tiny particles of glass.
 - ▶ Fume from lava tube has strong choking sulfur dioxide gas. Stay upwind!
- > WATCH YOUR STEP WHILE WALKING
 - ▶ The lava-flow surface is uneven, glassy, and riddled with deep cracks.
- > SEA CLIFFS ARE UNSTABLE; stay in designated viewing area back from the edge.
- > IF YOU FEEL AN EARTHQUAKE OR BENCH COLLAPSE, move quickly but safely inland as far as possible, to avoid possible tsunamis, bench/beach collapses, and/or explosions.

PLEASE KOKUA (help):

- Leave no trash. Carry out what you bring in. There is no one to clean it up.
- The Volcano Guide on duty will tell you specific updated conditions. Pay attention.
- Stay on the trail. Walking in this area can be dangerous, and much of the land is private property.
- Take care not to damage delicate formations in the lava flows you walk on.
- Do not take away samples of lava flow or any other artifacts.
- Don't throw anything over the cliffs.

Where lava enters the ocean is beautiful, but it is one of *the most dangerous* places on the volcano. More injuries and deaths have occurred here than anywhere else. These have resulted from: severe burns from steam and hot waves, being swept away during bench collapses, blocks of rock and hot lava thrown inland during explosions, falls from cliff edge, drowning or burning while swimming, falling into cracks at night, heat exhaustion, stroke and heart attack from overexertion, and exposure. Most of these could have been avoided. Don't assume that because it looks solid, it is safe. ASK FIRST!

For more information about Kilauca's cruption, visit the USGS Hawaiian Volcano Observatory website http://wwwhvo.wr.usgs.gov/kilauca/update/main.html

POLICIES

PUBLIC VIEWING:

- Daily: 2:00p.m. to 9:00p.m.

- Closing: Entry prohibited after 9:00p.m.

Area will be locked and secured at 10:00p.m.

SAFETY:

- Obey all signs and authorized personnel

- Stay within designated and marked areas only (for safety and respect for Hawaiiana and private property)

Vehicles:

- No vehicles larger than 15 passenger vans allowed beyond gate and barricades at end of pavement on Highway 130
- Parking allowed only in designated marked areas

ADVISORIES

Safety/Comfort:

- Obey all safety policies
- Walking distance to viewing area is about 30 minutes 1-way
- Walking surface is uneven and rough wear sturdy shoes or boots
- Bring flashlight for night viewing
- No food, water or restroom facilities available

Please:

- Respect private property
- Respect Hawaiiana and the rights of local residents
- Respect natures way

Appendix 7

A PROPOSAL FOR CERTIFIED VOLCANO GUIDES IN HAWAI'I COUNTY

Dr. Ken Hon, Assistant Professor, University of Hawai'i Hilo

Dr. Cheryl Gansecki, Adjunct Professor, University of Hawai'i Hilo

The active volcanoes of the Big Island are a powerful resource to attract additional visitors to East Hawai'i. Witnessing an active eruption is a life altering experience for most people and the chance to experience this phenomena is a powerful incentive to visit East Hawai'i. Historically access to the eruption site has been uncertain and there are constantly problems with safety as the involved agencies do not have the manpower necessary to provide guides and interpretation. In order to capitalize on this resource, we need to develop a system of assured access and safe visitation. This could be done in a manner to increase safety and provide a meaningful educational experience in a culturally sensitive context.

PROPOSAL: To develop a system of volcano guides licensed by Hawai`i County to lead tours into areas where the volcano is erupting. Guides would be certified at several different levels depending on their degree of experience and level of knowledge. The proposal will probably require a cooperative agreement between a number of state and federal agencies including: Hawai`i County, Hawai`i County Civil Defense, DLNR, The University of Hawai`i at Hilo, Hawai`i Volcanoes National Park, and the Hawaiian Volcano Observatory and the native Hawaiian community in Kalapana.

Model: The system would be modeled on the volcano guide program that has been successfully used for decades on Mount Etna in Italy and for climbing guides in Mount Rainier National Park. Cheryl and Ken recently visited Mt. Etna and were very impressed with how the guides were able to consistently bring groups of visitors to safely view eruptions at the summit of Mt. Etna. The guide system is administered by the regional government in cooperation with the volcano observatory, who provides information on safe areas on the volcano, and the regional park that controls the land. A similar system already exists in the U.S. National Parks for guiding climbers to the summit of Mount Rainier. While the volcano is not active, the risk of these tours is far greater than most lava tours would be on Kilauea volcano. We feel that a similar system could be emplaced in Hawai`i to establish a safe system that would virtually guarantee visitors an excellent experience with our volcanoes. This long-term stability is necessary if we wish to develop this resource and attract the consistent visitor base that would be necessary to support the guide system.

Purpose: By developing a licensed volcano guide system, Hawai'i County would bring together the diverse stakeholders that control eruption areas and certify volcano guides to work within these areas. It is crucial to develop a permanent agreement that is beneficial to all parties in order to develop a long-term guide system. Without the umbrella of a cooperative agreement the system would be susceptible to changing administration of any of the diverse government agencies that control access. Hawai'i County would play a central role in binding these groups together with a licensing program.

Benefits: Currently Hawai`i Volcanoes National Park draws over a million visitors to East Hawai`i per year. Unfortunately most just pass through for the day and the benefit of this visitation is minimal for East Hawai`i. Developing the volcanoes as a destination attraction would benefit East Hawai`i by opening up new jobs for volcano guides as well as increasing the demand for hotel, restaurant, and other visitor services.

The benefits to the county including increased visitation to East Hawai`i, safer access for visitors, fewer searches for lost persons, and organized education about scientific and cultural aspects of our volcanoes.

- 1) Safety: Currently none of the agencies involved with administering access or monitoring the volcanoes have the necessary manpower to provide safe access for visitors to the eruption site. Having trained guides would assure that visitors would be given appropriate information that would greatly reduce injuries and keep them in safe areas (few are capable of making this judgement by themselves). Providing guides would also reduce the number of searches the county is forced to undertake for persons reported missing while attempting to visit the remote eruption sites.
- 2) Education: Having visitors accompanied by trained guides allows a great opportunity to provide additional education about the volcanoes to enhance their experience. It also provides a way help visitors understand the cultural importance of the volcanoes and to behave in an appropriate manner in these areas.
- 3) Economics: The guide program would provide a source of new jobs for residents of East Hawai'i and encourage advanced education. There are potentially large benefits for the hotel and restaurant industry if a substantial number of visitors can be attracted to visit the volcano. Having a certified and licensed guide program would also be a major selling point when advertising the Big Island around the world.

PARTICIPANTS:

Hawai'i Volcanoes National Park, USGS Hawaiian Volcano Observatory, University of Hawai'i Hilo, Hawai'i County Civil Defense, Hawai'i County, State DLNR (and possibly other agencies), native Hawaiians from the Kalapana community.

Initial contact has been made with Jim Martin, superintendent of Hawai`i Volcanoes National Park, Don Swanson, scientist in charge of the Hawaiian Volcano Observatory, and Harry Kim, director of Hawai`i County Civil Defense. We have also talked with some members of the Hawaiian community in Kalapana. All of the parties we have approached are very supportive and interested in seeing this proposal go forward.

ROLES:

- 1) Access: A suitable agreement needs to be achieved between the various federal, state, and county agencies that control areas effected by current or future eruptions. It is critical that this be a long term arrangement for the program to succeed. The principal groups would be Hawai'i Volcanoes National Park, Hawai'i County Civil Defense, and appropriate State of Hawai'i land agencies.
- 2) Education: The prospective guides need to be well educated in both theoretical and practical aspects of working in eruption zones. We propose that guides be rated at several different levels (for example from 1 to 5) depending on both formal education , practical experience and feedback on their performance by the involved agencies. Guides with higher ratings would be permitted greater access and, perhaps, be allowed to take larger groups. Education could be handled through courses at the University of Hawai`i at Hilo.

These would include background information about Hawaiian volcanism, safety information, field training, cultural information, and help with running a small business.

- 3) Safety Restrictions: Areas open to tours by guides of specific levels would be determined by consultation between officials at Hawai'i Volcanoes National Park, Hawai'i County Civil Defense, the appropriate State agencies (if involved) and scientists at the Hawaiian Volcano Observatory. Open areas could be posted on a special internet site available to the volcano guides or through more conventional distribution.
- 4) Certification or Licensing: A crucial part of this plan is that the guides be certified to operate in all of the potentially open areas, which cross numerous governmental agency boundaries. At Mt. Etna this function is carried out by the regional government and it seems to us that this would be an appropriate role for the Hawai'i County government to play. The licensing of guides is not only important to assure the quality of the service, but also to provide a legal formalization to the entire guide process. This will ensure that once the guide system is installed it will continue even if personnel in the various agencies change. This long-term stability is very important to the success of the project. The licensing process for guides as envisioned would simply be a verification of the guide meeting certain educational requirements, having any appropriate insurance that may be required to operate, and would give the agencies a period to comment on the guides performance. The guides would simply provide the County with the appropriate documentation and licenses would be issued. This process doesn't need to be much different than the current procedure for licensing automobiles.

REGULATION: The intention of this proposal is to make regulation as simple as possible and to foster a sense of camaraderie and self-regulation within the guide community. There could be an initial probationary period of 1 year renewals followed by more permanent licenses. Unfavorable reviews by any of the participating agencies could be grounds for non-renewal. In addition, moving up to higher guide levels would require good reviews.

NEXT STEP: This document is intended to provide a starting point for discussions on development of a guide program. The next logical step would be to bring together representatives of the various agencies and entities to discuss this and develop a plan that is agreeable to all parties.

A number of issues could be discussed regarding insurance requirements, necessity of PUC approval, radio communications, identification of guides, distribution of information regarding open areas, possible trail access to remote sites like Pu`u `O`o, education requirements, oversight board, etc., as well as how to structure legislation to implement the guide program in the simplest and least restrictive manner.

BACKGROUND ABOUT THE AUTHORS

Ken Hon and Cheryl Gansecki are volcanologists that work at the University of Hawai`i Hilo and at Volcano Video Productions, a video company that specializes in filming Hawaiian volcanoes.

Ken received his Ph.D. from the University of Colorado in 1987 and spent the next 3 years as the staff volcanologist at the USGS Hawaiian Volcano Observatory. He interacted closely with Hawai`i County Civil Defense as lava flows inundated Kalapana. Ken spent 15 years with the U.S. Geological Survey, mostly with the volcano hazards group before coming to the University of Hawai`i at Hilo in 1997 as a full-time Assistant Professor. He teaches Geology of the Hawaiian Islands and Volcanology, as well as a number of other courses.

Cheryl received her Ph.D. in volcanology from Stanford University in 1998, where she worked on the Yellowstone caldera in Yellowstone National Park. She previously has worked on volcanoes in Greece and also worked for a summer at the USGS Hawaiian Volcano Observatory. Currently she is the president of Ka `lo Productions where she makes educational films about Hawaiian volcanoes. She has extensive experience filming and observing volcanic eruptions. She is also an adjunct faculty member at the University of Hawai`i at Hilo.

Ken and Cheryl are married and have a new baby girl. They live in Hawaiian Paradise Park and intend to raise their family in East Hawai`i. Both have a strong commitment to making East Hawai`i more vibrant while retaining the unique social and cultural characteristics that make it such a special place to live.

Some Ideas for Viewing and Interpretation of Lava Fields Administered by Hawai'i County. by Ken Hon and Cheryl Gansecki, University of Hawai'i at Hilo.

The success of the viewing area and interpretation will depend on both the visitor experience and safety coupled with the sustainability of the program. If the program is too resource intensive and cannot become self-sustaining over a short period of time, it will place to great a burden on the various County/State agencies and their employees that have already provided significant resources to implement it. If lava viewing and accessibility is to be a long-term goal to enhance the visitor experience, the interpretive program must also remain very flexible. By nature the program must be able to change rapidly in order to be useful and stay current with the eruption. The following are some general guidelines that might be useful for initial implementation of a program.

1. General interpretive materials at the end of Highway 130. There will be a distinct need for detailed written and pictorial information at the roadblocks at the end of Highway 130. This area will serve as the point for passengers to be picked up by the shuttle service, so an attractive and informative display in this area would be very useful. Hawaii Volcanoes National Park has a similar display at the end of the Chain of Craters Road, which could be duplicated and customized for use on the Kalapana side.

Items that would be appropriate within this case are:

An up to date map of the flow field showing where you are in reference to the location of the flows.

A small interpretative display about Kalapana.

An interpretative display discussing the hazards of ocean entries.

A discussion of general access to various parts of the flow field and relative difficulty (to attempt to discourage chasing "glow" off in the distance).

A discussion about what is needed to make the trip to the lava flows. Appropriate footwear, clothing, water, flashlights etc.

A posting about hours of operation and the availability of transportation.

Rules for private vehicle access, especially parking where the shuttles need to turn around at the end of the road.

A discussion about how much of the lava field outside the National Park covered private property and respect for private property along the edge of the parking area and the access road.

A warning discouraging walking out the road. Emphasize the walk is longer than it appears and especially the dangers of fast moving shuttle vans at night. (This is a new concern as currently vehicle traffic is slow due to road conditions. High speed vehicles may cause people to injure themselves by stepping onto lava at night when they can't see.)

2. **A sign in box at the shuttle parking area.** This would be similar to the sign in boxes used at hiking trailheads. All visitors/hikers would be required to sign in to go past this point. The top of the sign in sheet would have a standard kind of release statement that said "by signing this sheet I acknowledge that I am entering a potentially dangerous volcanic area, I have read the provided safety information, and I accept responsibility for my safety within this region" or whatever the lawyers might like to write up. There would then simply be a list for everyone to sign (sort of like a petition). The last driver out each day could collect the list.

- 3. **Fees.** Ken Hon did a small informal poll on July 29th with about 8 visitors that I encountered. I simply asked how much they would be willing to pay if there was transportation available from the end of the road. The consensus was that \$10 was too much. Most said \$6-8 would be fine. A fee of \$5 would be easy to collect and it seems most visitors would gladly pay this. If the eruption site could be self supporting it would take a great deal of the burden off the agencies that are making such large sacrifices to make this happen.
- 4. A small road sign pointing to the townsite of Kalapana, that can be seen from the shuttles.
- 5. A flyer/handout that can be given to all shuttle riders and also made available at the end of Highway 130. This would carry basic safety information and specific information about the visiting the site, in particular re-stressing some of the basic safety concerns discussed in the display. HVO has offered to provide masters of their Lava Flow safety handout which we could copy onto one side of this handout. What might be interesting to compile for this is a list of the types of fatalities and serious injuries on the flow fields. Personally, we recollect problems due to bench collapses, severe burns from steam and near boiling ocean water, disappearance while attempting to swim, falling in cracks at night, heart attacks, falling over small drop offs, visitors hit by hot, flying projectiles during bench collapses and explosions etc. Hopefully a tastefully done list might sink in with most visitors that there is a real opportunity to get hurt if they are not careful.
- 6. **Specific Interpretive materials at the end of the access road.** This sign would be similar to the large brown NPS sign that is currently along the roadside. It is possible that the NPS roadsign could be moved into the shuttle turnaround area for a temporary fix. A newer sign might be more emphatic and less interpretive looking, perhaps the white with black and red letter scheme that says something like Stop and Read Before Hiking.

Particularly the following dangers

Stress the importance of water, shoes, and flashlights.

Warn about the deep cracks along the trail and sharp glass on the lava surface.

Warn about fume and gas near the ocean entry.

Warn about bench collapses and violent explosions.

Advise visitors to keep to the marked trail to avoid hazards and to keep from getting lost

A warning about proceeding past the marked viewing area near the coast.

A message about respecting the property that emphasizes minimizing damage, not collecting rocks, leaving trash etc.

7. **Trail.** There is a very smooth flat region that proceeds almost directly from the parking towards the ocean entry. Preliminary marking of this trail could be done in a day by several people.

- 8. **Viewing area.** There is a natural viewing area at the eastern end of the current bench that could be marked off. The biggest dangers are the cliffs on the seaward side of the viewing area. As the trail approached the viewing area, a rope could be strung between fenceposts to delineate the safe area. Barricades would be difficult to carry out and also would distract from the scenic nature of the spot. Danger, DO NOT ENTER signs could be posted along the barrier. The NPS provides a viewing scope at the end of the Chain of Craters road for visitors to observe the lava through. This would be a very nice thing to have at the viewing area and would lessen the need that some people feel to go onto the bench area. The safe viewing areas will need constant evaluation due to changes in cliff and bench stability.
- 9. On site guides/interpreters. While at first it may be necessary to have enforcement personnel on site, with time it may be possible to control the crowd with a single interpreter. Some sort of uniform will greatly enhance the interpreter's authority. The NPS is very effective at using and training interpretive staff to handle large crowds at the eruption site, commonly without enforcement help. Having the help of staff from Hawaii Volcanoes National Park will be very important in training interpreters in a short time frame. Staff from UHH can provide the requisite geological information and in conjunction with materials available from HVO can produce a written training handout. A very important component of the interpretive experience should be a Hawaiian perspective on the eruption. This should be incorporated in the training and educational materials. However, an even better solution would be to try and draw as many of the interpretive guides from the local Hawaiian communities, particularly those from Kalapana who have truly experienced the effects of an eruption. Other sources of volunteer guides could also be tapped from the community by placing an article in the newspaper. The guides can re-enforce some of the hazards and geologic information provided on the signs and handouts. However, in my experience, most people watching the lava do not want to be lectured to about what they are seeing (past a bit of rudimentary information). People are very receptive to hearing stories about experiences with the lava and about legends regarding the lava flows. These types of materials tend to make a much closer cultural and experiential bond for the visitors. The presentation of the hazards information can also be done in a way to make people realize that they are in a dangerous place--it lets them feel a bit of excitement at the viewing area and decreases their need to proceed past the warning barrier (at least this is our experience with groups, make it exciting where you are and they will be happy).

Criteria for interpreters/guides and training.

Seek out as many interpreters from the local Hawaiian community as possible. Provide basic training in lava flow hazards, processes, and safety. Provide basic training in crowd management.

Provide a basic uniform, flashlight, radio, and other safety gear.

10. Site Closures. Currently there are 2 easy access spots onto the bench. The one closest to the viewing area seems most popular and is only about 10 feet wide. It would be easy to post and rope off. The more western access is over the main tube. The fume keeps most people off, but this should be posted with warning signs as well..

Appendix 8

Summary of Proceedings (Minutes Attached)
July 18, 2001 First Meeting, HTA Volcano Task Force

Mayor's Opening Comments:

Mayor Kim's opening comments emphasized the long-standing need for some kind of managed access to the lava fields at and around sea level near current points at which active flows are entering the ocean. Presently there are hundreds of visitors randomly entering these areas during day and night hours, either on their own or with unauthorized individual "tour guides". The problem was reinforced by Hawaii Volcanoes National Park (HVNP) and Hawaii Volcano Observatory (HVO) personnel who have had to deal with accidents, lawsuits and other problems associated with uninformed visitors freely entering these high risk areas. The situation is compounded by the fact that the current flow pattern lies outside the federal land boundaries of the NPS on the eastern side with entry from the Kalapana area, raising issues of trespassing on private property as well as state and county jurisdictional problems. The flow is entering the ocean about 2.5 or 3 miles from Kalapana with frequent "breakouts" occurring at the lower part of Royal Gardens and other places near there

The need for Hawaiian Community Involvement:

There was concern on both the part of the Mayor and the Hawaii Volcanoes National Park (HVNP) that there should be the involvement of the community, and because of some of the recent outbreaks on private lands, it will be critical to have representatives from the Hawaiian community involved. Further, in a recent US District court case, HVNP was persistently asked why the Parks have not been successful in keeping people away from the dangerous new flows, and ruled that there was a need to define hidden hazards and that appropriate signage was needed in these areas.

The Feasibility of managed access to an Active Volcano

In response to the question whether managed access is it worth pursuing, NVMP and HVO felt that while the idea is worthwhile pursuing, although the logistics at this point appear to be daunting. University of Hawaii at Hilo (UHH) raised the possibility of a certified guide-training program which had been discussed in the past. The project could be likened to Mt. Helena in Sicily and Mt. St. Helen's in Washington State where certified people take groups to safe areas. Mayor Kim expressed desire for an ongoing program, for kids, visitors and people in general. He wanted a program that could break the myths of a volcano being violent and explosive in nature, and which would create respect and a broadened understanding of this natural phenomenon. All felt something was needed due to the huge concern that many uninformed gawkers don't realize the risks of venturing near new lava flows, and that an educational program is needed to neutralize the thinking that the Government is not doing anything to prevent the risk of harm or death, as well as altering an image of the volcano as a "spooky thing". The USGS HVO

provides CD's to educate people on the lava flows and a guide to Mauna Loa should it erupt. However people seeking legitimate access to sites and who go through the observatory use these. The discussion also raised the possibility of a certified guide training program being an integral part of UHH, possibly following the Elder Hostel Program as a model.

Alternative "Managed" viewing points

Other possibilities as far as site access and/or "managed" viewing points included the north side of Puu O'o', at the old flows where there are thick steam clouds, and when it clears, 4 or 5 vents become clearly visible and volcanic activity can be heard. Issues of an "access road", environmental impact on virgin forests were raised in this regard, and the involvement of appropriate governmental agencies. An EIS alone would take years to do. New flows in the Kalapana area could also involve two options: lower and upper viewing.

The need for an active, "flowing" eruption not necessary

Mayor Kim felt that it should not matter whether an eruption is going on, that something needs to be done, that input is needed from all agencies affected, and that ultimately this project has to rely on the experts for guidance n whether or not any proposed solution is feasible.

Summary of issues discussed:

- 1. An educational and certified training program that is consistent throughout its delivery and institutionalized from an academic standpoint is preferable
- 2. It is alright for the task force to go beyond the language of the resolution which refers to a site specific project as follows (HR 84, HD 1):
- ...That the HTA is requested to convene a task force to study means to provide safe access to view volcano eruptions and establishing a visitor observatory to offer safety and educational information to volcano visitors; ...
- 3. It would not matter whether an eruption is ongoing or not
- 4. That experts (HVNP, HVO) would guide the Task Force as far as whether proposed solutions are feasible or not
- 5. The task force should examine other jurisdictions with similar circumstances to see what programs have been developed for managed access to volcanic features with the help of HVNP's recently hired chief of interpretations who formerly was employed at Mt. St. Helen's National Park Service
- 6. That community participants need to be identified by current task force members to attend Task Force meetings

Conclusion

The meeting ended with each agency present at the meeting to respond to the ideas and concepts presented either by email or by letter to the Hawaii Tourism Authority. Doug Aton, would communicate with participants by email or letter to provide the participant listings and the minutes of this first meeting.

Next Steps

Please comment on the following issues that were discussed during our meeting:

- 1. Certified Guide training program
- 2. Kalapana lava field access
- 3. Pu'u O Vent access
- 4 Communities affected

Your comments should address (1) the nature of the problem (2) the possible jurisdictions involved (3) the environmental, cost, community concerns, and (4) possible strategies and suggestions.

This ends the summary of our first meeting, mahalo, for your participation. Should there be any further issues that should be addressed or any questions or concerns, please email, or call me at the HTA Office, 973-2282 ... or on my cell phone, 389-4031

Doug Aton HTA, Intergovernmental Relations Hawaii Convention Center 1801 Kalakaua Avenue Honolulu, Hawaii 96815